DOWNLOAD PDF CLEFT PALATE AND RELATED DISORDERS

Chapter 1 : Cleft and Craniofacial Disorders | Barrow

She has made over 75 presentations at national and international conferences in four countries on topics related to communication disorders associated with cleft palate, assessment and treatment of velopharyngeal insufficiency, and velo-cardio-facial syndrome.

Della is a single, full-time mother of a daughter and a son. And they all seem to come at once: And then he got a job, and that was it, I I was living with my sister: So there must be a financial cost as well? How do you get to the appointments and? And then she found out about all the problems and things and she basically advised us of all these things that we could apply for. And she explained about the Disability Living Allowance and she filled out all the forms and sent it off, and Tia got that awarded at the middle rate, at the care component. And that helped dramatically towards Book it, pay for it yourself and then get it refunded once you get to the hospital. And when I first had Tia that was a And it used to scare me trying to scrape the money together to get to the hospital appointments. So when I got the Disability, it helped massively. But in my eyes it was So it was like Again it was the same thing: Stickler Syndrome is also associated with cleft palate. However it is a much rarer condition and may often go undiagnosed. Stickler Syndrome SS is a genetic condition and is normally passed on from parent to child. It can affect both boys and girls. Having Stickler Syndrome reduces the amount of collagen, the connective tissue which supports the organs and covers the bone ends within each joint, in the body. Collagen also helps to make the eyes work properly so children born with Stickler Syndrome will require regular check-ups at an eye hospital. Audio only Text only.

Chapter 2 : Craniofacial Center Conditions We Treat

Connective Tissue Gene Test's cleft lip, cleft palate and related disorders panel focuses on disorders in which CL/P is a major finding. read more Cleft lip with or without cleft palate (CL/P) is among the most common congenital craniofacial defects.

Produced by complete closure made by the tongue followed by slow release of air through a narrow constriction. Comparatively, the pressure consonants stops, fricatives and affricates are more affected than the other sounds. They generally result in changes in the manner of articulation. These errors cannot be corrected through speech therapy unless the underlying structural deformity is corrected. Compensatory errors include errors that occur due to maladaptive articulatory placements learned by children during the developmental period. These errors involve changes in the placement of articulation, with the manner being retained. These errors can be corrected only through speech therapy. It has been demonstrated that the prognosis and outcomes of therapy are better if the intervention is started early. Appropriate care should be taken to develop the controlled single-word and sentence stimuli with emphasis on pressure consonants that can be elicited in individuals with cleft lip and palate. In India, controlled speech stimuli have been developed in Tamil, Malayalam, and Kannada. However, there is a need to develop such materials across other Indian languages as well. This would enable uniform protocols for the assessment of speech production in individuals with cleft lip and palate. Abnormal nasal resonance and airflow Abnormal nasal resonance is another characteristic feature in most individuals with cleft lip and palate. The resonance of speech is largely determined by the size and shape of the oral, nasal, and pharyngeal cavities, and the functioning of the velopharyngeal valve. The abnormal nasal resonance in cleft lip and palate could involve either hypernasality or hyponasality. Hypernasality refers to an excessive nasal resonance that is perceived for vowels and oral consonants. Hyponasality indicates a decreased nasal resonance for nasal consonants and vowels. In some individuals with cleft, hypernasality and hyponasality co-exist, resulting in a mixed nasality. Abnormal resonance can be caused by structural disturbances such as obstructions in the nasopharynx due to adenoid hypertrophy, swelling of the nasal passages secondary to allergic rhinitis, or hypertrophic tonsils causing hyponasality , large oronasal fistula, and velopharyngeal dysfunction causing hypernasality. Occasionally, hypernasality could be caused due to velopharyngeal mislearning, wherein only certain sounds are perceived to be hypernasal. This is referred to as phoneme-specific hypernasality, which occurs due to the incorrect placement of oral structures for certain sounds e. These conditions result in air emission while attempting to produce pressure-sensitive sounds. The loudness of this emission is determined by the size of the opening fistula or velopharyngeal port. Phoneme-specific nasal air emission can also be noticed due to velopharyngeal mislearning. It consists of the lateral and posterior pharyngeal walls as well as the soft palate. The role of the velopharyngeal valve is to separate the oral and nasal cavities during speech and swallowing. During speech production, the air is directed through the mouth for oral sounds and through the nose for nasal sounds. VPD is the inability to separate the oral and nasal cavities adequately during speech production through the actions of the velum and pharynx. Velopharyngeal dysfunction can be caused due to lack of tissue velopharyngeal insufficiency or lack of proper movement velopharyngeal incompetence of the walls. While VPD is commonly associated with cleft lip and palate, it can also be seen with submucous cleft and other noncleft conditions such as ablative palatal lesions, adenoidectomy, deafness or hearing loss, and cerebral palsy. This could be manifested as one or more of the following: It is important to use speech stimuli across different levels including syllables, words, and sentences during the assessment. This would place a higher demand on the velopharyngeal functioning. The profile obtained through perceptual evaluation will provide some insight about the status of the velopharyngeal function and indicate whether instrumental evaluation such as nasoendoscopy and videofluoroscopy are needed. Nasoendoscopy and videofluoroscopy are direct measures that permit the examiner to view the anatomical and physiological defects that cause VPD. Nasoendoscopy is a minimally invasive procedure that requires compliance from the individual. It provides a view of all the structures of the velopharyngeal mechanism and determines the location, size, and shape of the

velopharyngeal opening. However, videofluoroscopy gives a better picture of the length of the velum and its upward movement during speech. The information from multiple views frontal, basal, and lateral has to be extrapolated to appreciate the functioning of the valve in all the three dimensions. Also, exposures to radiations in videofluoroscopy necessitate the procedure to be brief. Comparatively, videofluoroscopy is a less invasive procedure than nasoendoscopy. Both nasoendoscopy and videofluoroscopy are well recognized procedures in clinical practice. It is important to perform at least one of them when warranted, so that information on the pattern of velopharyngeal closure for speech can be obtained to decide on further treatment options. Information about the type of closure and nature of defect serves as a base in the differential diagnosis and decision-making for treatment. Nasometry is another procedure used for the assessment of resonance. It is an indirect measure of resonance as it does not allow the clinician to visualize the velopharyngeal port. It is a noninvasive procedure that measures the oral and nasal energy during a speech task. These values are then compared to the standardized norms for that particular language for interpretation. Normative data on nasalance scores are available in some Indian languages. Management of VPD The treatment of velopharyngeal dysfunction may include surgical intervention pharyngeal flap, sphincter pharyngoplasty, or posterior pharyngeal wall augmentation and speech therapy. Prosthetic devices can also be used on a temporary or permanent basis in some instances. Surgery is often needed to correct the structural deficit, but does not necessarily result in change of function. Therefore, postoperative speech therapy is usually indicated to help the individual make the best use of the surgical correction, and also, to correct the compensatory articulation errors associated with VPD. This is characterized by breathiness, hoarseness, and low intensity of voice during speech tasks. This is usually due to increased respiratory and muscular effort, and hyper-adduction of vocal folds while attempting to close the velopharyngeal valve. Studies have demonstrated the efficacy of early intervention models using parents in the prevention of compensatory errors. Older children about age three can be involved in direct therapy for the correction of errors in speech sound production misarticulation. The goals are to establish the correct placement of the oral structures for speech sound production and directing the airflow appropriately. Goals are set depending on the error patterns and the age of the child. It should be kept in mind that errors due to structural defects cannot be corrected through speech therapy unless the structural deformity is corrected. Appropriate feedback using multiple modalities such as auditory, visual, tactile, etc. Elements of oromotor therapy such as blowing, sucking, whistling, and electrical stimulation are not useful in facilitating the correct production of speech sounds. Furthermore, because individuals with cleft lip and palate have a structural deformity and not a muscle weakness, oromotor exercises should be avoided in this population. CONCLUSION As a member of the cleft care team, the speech pathologist works closely with the surgeon and other team members to ensure that timely assessments and appropriate management are provided. The first assessment of communication skills should begin in infancy even before the child begins to speak, focusing on the language skills and emerging sound production. Speech language therapy focuses not only on direct one-on-one therapy, but also on early intervention programmes that will reduce the manifestation of communication disorders in individuals with cleft lip and palate. Cleft care is most successful when services are not only comprehensive, but also interdisciplinary in nature. Thus, it is important for each member of the team to understand the fundamental principles of care in the area of expertise of other members of the team. Footnotes Conflict of Interest: American Cleft Palate-Craniofacial Association. American Cleft Palate-Craniofacial Association; Speech and language development disorders in infants and children with cleft lip and palate. Use of a consensus building approach to plan speech services for children with cleft palate in India. Communication disorders associated with cleft palate. Mc Graw Hill Professional; Speech development and timing of primary palatoplasty. Bardach J, Morris HL, editors. 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development of children with cleft palate before and after palatal surgery. Speech services for individuals with cleft lip and palate in a rural community: An assessment of needs. Poster presented at 40th National convention of Indian speech and hearing association. Grunwell P, Sell DA. Management of cleft lip and palate. Universal parameters for reporting speech outcomes in individuals with cleft palate. Diagnosis of specific cleft palate speech error patterns for planning therapy of physical management needs. Communicative disorders related to cleft lip and palate. Speech, language and velopharyngeal dysfunction: Management throughout the life of an individual with cleft palate.

Chapter 3 : Syndromes and anomalies associated with cleft

Therapy Techniques for Cleft Palate Speech and Related Disorders gets straight to the point by identifying compensatory articulation patterns and providing step-by-step guidelines for their prevention and elimination.

Discharge Instructions Cleft Lip Repair The incision may appear to become wider and redder for 6 to 8 weeks following surgery. The incision will shrink lengthwise and the lip may be pulled upward. These changes are due to the normal tightening of the scar as it heals and are to be expected. All these changes will take place over the next 6 to 12 months. Signs and Symptoms of Infection At home, observe your child for signs and symptoms of infection. When checking for the following symptoms, please be sure to rule out any common childhood illness that can be referred to primary care physicians. Do not rub at the incision to clean it. Do not clean vigorously. Just gently blot with a soft cloth moistened in warm water. Do not pick at the scabs or incision. Use NO-NO splints at night or when the child is unattended to keep the child from picking at the incision. NO-NO splints are to be used for the first 1 to 2 weeks after surgery. The NO-NO splint should be used for weeks following surgery. Do not allow the child to place any objects in the mouths, including pacifiers, teething rings or hands. Have your child drink water following meals to clean the mouth. It is OK to use a soft cloth to clean the teeth, if your child will tolerate it. Do not use a toothbrush in the mouth for two weeks following surgery. Diet for Cleft Lip Infants may go back to breastfeeding or drinking formula from a bottle following cleft lip repair. Medicine Twenty-four hours following surgery, most children are taking fluids well and pain is often controlled with plain Tylenol. Your children will be sent home with an antibiotic to be taken for five days following surgery to help prevent infection.

Chapter 4 : Cleft lip and cleft palate - Wikipedia

Disclaimer. This webpage pertains to management of children by the John Hunter Children's Hospital Cleft Palate Team. The resource information is aimed at qualified speech pathologists working within the geographical area of the Northern Child Health Network.

Cleft lip may be unilateral or bilateral. A baby with a cleft lip may also experience a cleft in the roof of the mouth cleft palate. A cleft palate often includes a split cleft in the upper lip cleft lip but can occur without affecting the lip. Cleft lip and cleft palate are openings or splits in the upper lip, the roof of the mouth palate or both. Cleft lip and cleft palate are among the most common birth defects. They most commonly occur as isolated birth defects but are also associated with many inherited genetic conditions or syndromes. Having a baby born with a cleft can be upsetting, but cleft lip and cleft palate can be corrected. In most babies, a series of surgeries can restore normal function and achieve a more normal appearance with minimal scarring. Symptoms Usually, a split cleft in the lip or palate is immediately identifiable at birth. Cleft lip and cleft palate may appear as: This type of cleft often goes unnoticed at birth and may not be diagnosed until later when signs develop. Signs and symptoms of submucous cleft palate may include: Difficulty with feedings Difficulty swallowing, with potential for liquids or foods to come out the nose Nasal speaking voice Chronic ear infections When to see a doctor A cleft lip and cleft palate are usually noticed at birth, and your doctor may start coordinating care at that time. Normally, the tissues that make up the lip and palate fuse together in the second and third months of pregnancy. But in babies with cleft lip and cleft palate, the fusion never takes place or occurs only part way, leaving an opening cleft. Researchers believe that most cases of cleft lip and cleft palate are caused by an interaction of genetic and environmental factors. The mother or the father can pass on genes that cause clefting, either alone or as part of a genetic syndrome that includes a cleft lip or cleft palate as one of its signs. In some cases, babies inherit a gene that makes them more likely to develop a cleft, and then an environmental trigger actually causes the cleft to occur. Risk factors Several factors may increase the likelihood of a baby developing a cleft lip and cleft palate, including: Parents with a family history of cleft lip or cleft palate face a higher risk of having a baby with a cleft. Exposure to certain substances during pregnancy. Cleft lip and cleft palate may be more likely to occur in pregnant women who smoke cigarettes, drink alcohol or take certain medications. There is some evidence that women diagnosed with diabetes before pregnancy may have an increased risk of having a baby with a cleft lip with or without a cleft palate. Being obese during pregnancy. There is some evidence that babies born to obese women may have increased risk of cleft lip and palate. Males are more likely to have a cleft lip with or without cleft palate. Cleft palate without cleft lip is more common in females. In the United States, cleft lip and palate are reportedly most common in Native Americans and least common in African-Americans. Complications Children with cleft lip with or without cleft palate face a variety of challenges, depending on the type and severity of the cleft. One of the most immediate concerns after birth is feeding. While most babies with cleft lip can breast-feed, a cleft palate may make sucking difficult. Ear infections and hearing loss. Babies with cleft palate are especially at risk of developing middle ear fluid and hearing loss. If the cleft extends through the upper gum, tooth development may be affected. Because the palate is used in forming sounds, the development of normal speech can be affected by a cleft palate. Speech may sound too nasal. Challenges of coping with a medical condition. Children with clefts may face social, emotional and behavioral problems due to differences in appearance and the stress of intensive medical care. Prevention After a baby is born with a cleft, parents are understandably concerned about the possibility of having another child with the same condition. If you have a family history of cleft lip and cleft palate, tell your doctor before you become pregnant. Your doctor may refer you to a genetic counselor who can help determine your risk of having children with cleft lip and cleft palate. Use of alcohol or tobacco during pregnancy increases the risk of having a baby with a birth defect.

Chapter 5 : Management of children with cleft palate and related speech disorders

Individuals with cleft lip and palate form a diverse group varying from those who have an isolated cleft, to those in whom cleft lip and palate is more of a feature of a syndrome. This diversity makes it difficult to make generalizations about the characteristic features of communication disorders in those with cleft lip and palate.

Dental anomalies Dental anomalies and effects on speech Children with cleft palate commonly have missing, rotated or extra teeth at the alveolar cleft site. The maxilla upper jaw may be narrow. Class III malocclusion, or underbite where the lower jaw and teeth sit forward in relation to the upper jaw is common in children with a history of cleft palate. Read on for more detail on Dental anomalies and their effects on speech. Dental anomalies and effects on speech Dental problems are common in the cleft palate population. Peterson-Falzone chapter 6 provides helpful prompt-questions to help focus diagnostic thinking about the effects of dental and occlusal anomalies on speech. Some of the more common dental anomalies are summarised here. Alignment of jaws and teeth The normal alignment of the upper jaw maxilla to the lower jaw mandible is such that the molar teeth will occlude, and the upper incisors front teeth slightly overlap the lower incisors. The cusps like mountains of the upper molars fit into the fossae like valleys of the lower molars, such that the mandibular molar is a half of a tooth in front of the maxillary molar. This is referred to as "Class I occlusion" Dental malocclusions can refer to either the jaws being misaligned, or the teeth being malpositioned such that they do not line up together properly. While it describes tooth relationships, it is often supplemented with a description of skeletal relationships. The term orthagnathic is also used. The maxilla is protruded relative to the mandible, ie the top jaw sticks out further than usual. This could be due to a small mandible, a large maxilla, or a combination of both. This is also referred to as retrognathic. The mandible is protruded beyond the maxilla, ie the top jaw is recessed further back than the bottom jaw. This may be due to a large mandible, a small maxilla, or both. This is also termed prognathic. A class III malocclusion is reasonably common within the cleft palate population. Crossbite is also quite common within the cleft palate population. In normal occlusion, the maxillary teeth overlap the mandibular teeth. When the mandibular teeth overlap the maxillary teeth, this is referred to as crossbite. In the cleft population, the maxilla can be narrow for a number of reasons, including i there is less tissue to start with, due to the presence of a cleft; ii maxillary growth can be restricted; iii scarring at the surgical repair site may also act to impair growth. Crossbite may occur in one, some, or all of the teeth. These photos display both anterior and posterior crossbites in a patient who had a partial cleft of the hard and complete cleft of the soft palate. No lip or alveolar involvement. An anterior crossbite describes the top incisors being positioned behind the bottom incisors. Anterior crossbite is common in cases of Class III malocclusion. An anterior crossbite may result in an interdental production of alveolar sounds if the tongue remains in a normal position a passive error. Otherwise, the child may actively compensate by pulling the tongue back: A posterior crossbite may occur because the maxilla is narrow, and the upper molars sit medially to the lower molars. Open bite describes when the upper and lower teeth usually just the front teeth do not close at rest. An anterior open bite can have a dental thumb or dummy sucking habit or skeletal origin. An anterior open bite may result in interdental production of alveolar sounds. A less common form of open bite is the lateral open bite. The anterior teeth overlap as normal but there is space between the posterior teeth. It can be unilateral or bilateral. Posterior crossbite and lateral open bite on left side and posterior crossbite on right side of same patient. Overbite describes the vertical relationship of the upper and lower incisors. An overlap which is greater than this is referred to as deep overbite or deepbite. This may happen to the extent that the lower incisors are completely overlapped by the upper incisors. This can be associated with oral cavity crowding and can affect the production of sibilants and tongue-tip sounds. Overjet describes the horizontal relationship of the upper and lower incisors. In normal dentition, there is a small space between the upper and lower incisors about 2mm if measured in a horizontal plane from the front surface of the upper incisor to the front surface of the lower incisor when the teeth are closed. If this space is greater, it is described as overjet. Another is a class II malocclusion. A handy mnemonic for overjet is to think of a jet flying forward. This displays an increased overjet with a Class II molar relationship. In addition to occlusal anomalies, children

with cleft palate commonly have missing, rotated or extra teeth at the alveolar cleft site. Missing teeth may result in a lateral or interdental production of sibilants, as the missing tooth or teeth affect tongue position and airflow. Additional teeth can cause oral cavity crowding, and may affect tongue placement, particularly for alveolar sounds and interdental sounds. Sibilants may be lateralised. Kummer explains the effect of dental anomalies on speech as follows: The maxillary teeth overlap the mandibular teeth. This leaves plenty of room for the tongue tip to articulate freely in the oral cavity against and under the alveolar ridge. In addition, the upper and lower lips are approximated, making the bilabial and labiodental sounds easy to produce. When there are dental or occlusal anomalies, however, this can inhibit the function of the tongue and lips, causing speech problems" p. Click here to view a film clip of an adolescent with a Class III malocclusion. This 14 year old boy has a history of a complete left sided cleft lip and palate, with palatal repair surgery at 9 months of age and alveolar bone graft at approximately 10 years of age. Note in particular his production of alveolar sounds. Mini OMA wmv 2. Dental appliances Children with cleft palate often have various orthodontic appliances in place, which can also have an impact on articulation. The picture below shows braces. Another common appliance in the late primary to early high school years is the quad helix appliance. This is an orthodontic appliance for maxillary expansion. It has a wire across the hard palate which tends to interfere with airflow and tongue placement for speech, in particular for sibilants and affricates. It may be helpful to delay treatment of affected, non-stimulable sounds until the appliance is removed. Golding-Kushner, , p18, p. Liaison with the orthodontist regarding timing of treatment may be helpful. It assumes a working knowledge of articulation and phonological processes in paediatric populations.

Chapter 6 : Facts about Cleft Lip and Cleft Palate | Birth Defects | NCBDDD | CDC

Dental anomalies and effects on speech Dental problems are common in the cleft palate population. Kummer () chapter 9 provides a comprehensive review of normal dental occlusion and common patterns of malocclusion and their potential effects on articulation.

Find articles by R. This article has been cited by other articles in PMC. Abstract Orofacial clefts are one of the commonest birth defects, and may be associated with other congenital anomalies. The majority of these orofacial clefts are nonsyndromic. A significant percentage of these clefts both syndromic and non-syndromic may have associated anomalies. Apart from reviewing other studies, this article also analyses a study of associated anomalies from a tertiary cleft centre in India. Various authors have reported incidence of associated anomalies varying from as low as 4. Any insult like environmental, developmental or nutritional to the embryo during this period will lead to malformations. Associated anomalies are classified according to the organs affected. In general, most congenital anomalies can be divided into three types a Disruptions: A rare anomaly related to breakdown of the original normal foetal developmental process, e. These occur secondary to mechanical forces leading to anomalies of a lesser degree when compared to disruption, e. A morphologic defect in an organ from an intrinsically abnormal developmental process, e. However, with the present advancement in embryology and genetics, and its correlations, the associated anomalies need to be differentiated from syndromes, from sequences and associations in patients with multiple congenital anomalies. They are generally described in four categories. A review by Gorlin described 72 monogenic syndromes involving Oral clefts OCs. A follow-up report by Cohen[3] identified monogenic syndromes and, more recently, were identified in the version of the London Dysmorphology database Winter and Baraitser, The deletion of Chromosome 22q Trisomies 13 and 18, and the 4p- are other chromosomal abnormalities leading to different syndromes often found with oral clefts. The most common sequence observed with oral clefts is the Pierre Robin sequence, which is characterized by mandibular deficiency, cleft palate, and upper airway obstruction. It was named Pierre Robin syndrome, anomalad or complex, but since it is regarded as a series of events during embryology like micrognathic jaw leading to cleft palate, it is now known as a sequence. Oral clefts are frequently associated with congenital heart defects. The cause of these associations is unknown. Clinical evaluation The approach in dealing with any given anomaly including clefts is to study the associated defects. Due to variation in the timing of the development of abnormalities, follow-up until the child is four or five years of age is essential. Thorough clinical examination, preferably by geneticist or dysmorphologist. Description of the cleft, antenatal history, birth history, developmental history, and family history. Documentation by photographs of all affected individuals and first-degree relatives. Necessary laboratory and radiological evaluations. At birth, black population has lower prevalence of oral clefts compared to whites; Sullivan[8] found that oral clefts in the black population are more commonly associated with clubfoot and polydactyly compared to other ethnic population. The explanation given is that polydactyly and clubfoot are more prevalent in blacks than in whites. In addition, one should also consider spontaneous abortions, elective terminations, stillborn foetuses, and babies that died shortly after birth to get the true numbers of associated anomalies. It is also essential that every child should be thoroughly examined immediately after birth for the associated anomalies, because children with severe malformation may not survive long. Jensen[10] recognized that, and because they did not study stillbirths and early deaths, their figure of 4. We have mentioned here some important studies from different countries. These were most frequent in infants with cleft palate only Malformations in the central nervous system and in the skeletal system were the anomalies most commonly associated. Next in frequency were malformations in the urogenital and cardiovascular systems. Although prenatal ultrasonic tests were carried out, a success rate of only The frequency of associated malformations in CLP 3. Of the patients, had associated anomalies.

Chapter 7 : Communication disorders in individuals with cleft lip and palate: An overview

I actually share my office in downtown Brooklyn, New York with one of the world's top authorities on treating speech disorders related to cleft palate. She said she would be available by teletherapy (i.e. Skype) for at least a consultation.

Treatment planning guidelines Where to start? The question of where to begin with treatment planning for cleft-type speech characteristics has the same answer as for any articulation or phonological disorder: Analyse the speech sample to determine patterns of errors. Document the phonemic repertoire. Planning goals Harding and Grunwell in their article about active vs passive cleft-type speech characteristics give some specific advice about planning therapy targets pp Target selection for therapy: Consider which targets are most stimulable in isolation. Consider which sounds will have the most impact on intelligibility. Developmentally early sounds can be a good starting point, however: Target selection might not follow normal developmental patterns. For children with very limited phonemic inventories, increasing the meaningful contrasts the child can produce is the goal: It can be helpful to target an entire class of affected consonants. Voiceless plosives and voiceless fricatives can be easier to work on than voiced sounds. Golding-Kushner , pp also suggests: Ensure the client and parent understand the problem. Build a core vocabulary in which all sounds are correctly produced. Active versus passive cleft-type speech characteristics. Diagnostic therapy Diagnostic therapy can be particularly helpful for children with very limited phonemic repertoires, to establish whether oral production of phonemes is possible once oral articulatory placement has been taught. Treating active cleft type speech errors is very similar to treating any other phonological disorder, something with which paediatric speech pathologists have extensive experience. Some general principles which have been recommended in the literature are: Emphasise minimal articulatory effort and pressure in the demonstration model. Target voiceless consonants first, then add voicing. Voiced sounds require higher intra-oral pressure. Teach word final consonants first. Word final plosives require less intra-oral air pressure than word initial, and the preceding vowel helps to establish oral airflow. Consonants in other word positions may then be able to be taught using a chaining technique, for example "back" "backing" "king". Fricative targets may be easier than plosives, even though this does not follow the usual development order of acquisition. Work from the front of the mouth to the back. Anterior sounds tend to be easier as they are the most visible. It may be useful to change one feature at a time when moving from one sound to the next sound. If using an articulation approach, work in a hierarchy of single sounds to syllables, words, sentences and spontaneous speech for correct placement and manner. Plan for multiple repetitions of targets. For words lists for therapy, refer to Blockcolsky et al , which provides very specific word lists grouped according to sounds and blends.

Chapter 8 : Cleft Lip and Cleft Palate

Cleft Palate and Neurological Disorders Treato found 9 discussions about Neurological Disorders and Cleft Palate on the web. Symptoms and conditions also mentioned with Cleft Palate in patients' discussions.

Cleft lip is formed in the top of the lip as either a small gap or an indentation in the lip partial or incomplete cleft , or it continues into the nose complete cleft. Lip cleft can occur as a one-sided unilateral or two-sided bilateral condition. It is due to the failure of fusion of the maxillary and medial nasal processes formation of the primary palate. Unilateral incomplete Unilateral complete Bilateral complete A mild form of a cleft lip is a microform cleft. The soft palate is in these cases cleft as well. In most cases, cleft lip is also present. Cleft palate occurs in about one in live births worldwide. When cleft palate occurs, the uvula is usually split. It occurs due to the failure of fusion of the lateral palatine processes, the nasal septum, or the median palatine processes formation of the secondary palate. The hole in the roof of the mouth caused by a cleft connects the mouth directly to the inside of the nose. The top shows the nose, the lips are colored pink. For clarity the images depict a toothless infant. Incomplete cleft palate Unilateral complete lip and palate Bilateral complete lip and palate A result of an open connection between the mouth and inside the nose is called velopharyngeal inadequacy VPI. Because of the gap, air leaks into the nasal cavity resulting in a hypernasal voice resonance and nasal emissions while talking. Adolescents may face psychosocial challenges but can find professional help if problems arise. There is research dedicated to the psychosocial development of individuals with cleft palate. Self-concept may be adversely affected by the presence of a cleft lip or cleft palate, particularly among girls. However, as they grow older and their social interactions increase, children with clefts tend to report more dissatisfaction with peer relationships and higher levels of social anxiety. Experts conclude that this is probably due to the associated stigma of visible deformities and possible speech impediments. Children who are judged as attractive tend to be perceived as more intelligent, exhibit more positive social behaviors, and are treated more positively than children with cleft lip or cleft palate. It has been reported that elevated stress levels in mothers correlated with reduced social skills in their children. A cleft lip or cleft palate may affect the behavior of preschoolers. Experts suggest that parents discuss with their children ways to handle negative social situations related to their cleft lip or cleft palate. A child who is entering school should learn the proper and age-appropriate terms related to the cleft. The ability to confidently explain the condition to others may limit feelings of awkwardness and embarrassment and reduce negative social experiences. An adolescent with cleft lip or cleft palate will deal with the typical challenges faced by most of their peers including issues related to self-esteem, dating and social acceptance. Adolescent boys typically deal with issues relating to withdrawal, attention, thought, and internalizing problems, and may possibly develop anxiousness-depression and aggressive behaviors. Individuals with cleft lip or cleft palate often deal with threats to their quality of life for multiple reasons including: Complications A baby being fed using a customized bottle. The upright sitting position allows gravity to help the baby swallow the milk more easily Cleft may cause problems with feeding, ear disease, speech and socialization. Due to lack of suction, an infant with a cleft may have trouble feeding. An infant with a cleft palate will have greater success feeding in a more upright position. Gravity feeding can be accomplished by using specialized equipment, such as the Haberman Feeder , or by using a combination of nipples and bottle inserts like the one shown, is commonly used with other infants. A large hole, crosscut, or slit in the nipple, a protruding nipple and rhythmically squeezing the bottle insert can result in controllable flow to the infant without the stigma caused by specialized equipment. Individuals with cleft also face many middle ear infections which may eventually lead to hearing loss. The Eustachian tubes and external ear canals may be angled or tortuous, leading to food or other contamination of a part of the body that is normally self-cleaning. Hearing is related to learning to speak. Babies with palatal clefts may have compromised hearing and therefore, if the baby cannot hear, it cannot try to mimic the sounds of speech. Thus, even before expressive language acquisition, the baby with the cleft palate is at risk for receptive language acquisition. Because the lips and palate are both used in pronunciation, individuals with cleft usually need the aid of a speech therapist. Cause The development of the face is coordinated by complex morphogenetic events and

rapid proliferative expansion, and is thus highly susceptible to environmental and genetic factors, rationalising the high incidence of facial malformations. Five primitive tissue lobes grow: This may happen in any single joining site, or simultaneously in several or all of them. The resulting birth defect reflects the locations and severity of individual fusion failures e. The upper lip is formed earlier than the palate, from the first three lobes named a to c above. Formation of the palate is the last step in joining the five embryonic facial lobes, and involves the back portions of the lobes b and c. These back portions are called palatal shelves, which grow towards each other until they fuse in the middle. The biologic mechanisms of mutual recognition of the two cabinets, and the way they are glued together, are quite complex and obscure despite intensive scientific research. Many clefts run in families, even though in some cases there does not seem to be an identifiable syndrome present, [24] possibly because of the current incomplete genetic understanding of midfacial development. A number of genes are involved including cleft lip and palate transmembrane protein 1 and GAD1 , [25] One study found an association between mutations in the HYAL2 gene and cleft lip and cleft palate formation.

Chapter 9 : Cleft lip and cleft palate - Symptoms and causes - Mayo Clinic

Cleft lip and cleft palate are birth defects that occur when a baby's lip or mouth do not form properly during pregnancy. Together, these birth defects commonly are called "orofacial clefts".

Cleft lip and palate can be repaired through plastic surgery. This surgery typically occurs when babies are about 3 months old. During cleft lip surgery, nostrils are repaired with later revisions, if needed. In addition to improving appearance and function, goals of surgery include: Closing the cleft lip. Creating adequate distance between the upper lip and nose. Even though the scars of a cleft lip repair are generally located within the normal contours of the face, they will always be visible. Cleft Palate Repair By closing the opening in the roof of the mouth, this repair creates the floor of the nasal cavity. Cleft palate surgery typically occurs when a baby is 9 to 12 months old. Some children who have cleft palates will need additional surgeries or treatments as they developâ€”to help with speech, improve the appearance of the lip, close openings near the mouth or add bone to the upper gum to allow for proper gum development. When the cleft also affects the shape of the nose, additional procedures can: Improve symmetry between the nostrils. Create an adequate length of tissue separating the nostrils. Minimize the appearance of a flattened tip of the nose or a nose that pulls downward. Prenatal diagnosis and consultation: We provide timely consultations to help your family learn about conditions like cleft lip and palate and understand the available treatment options before your baby is born. If you have adopted, or are adopting an older child, we help with cleft repair surgery and treatment during childhood, rather than infancy. Surgical procedures to repair cleft lip and palate and additional surgeries typically occur as follows: Gillette is a leading provider of cleft lip and palate repair surgery for babies and children who have cleft lip and palate. Led by a team of board-certified craniofacial and plastic surgeons, our team works to promote self-confidence for your baby or child. Preparing for Cleft Lip and Palate Repair Surgery is often one part of a comprehensive treatment plan. Appointments Before Cleft Lip and Palate Repair Surgery Soon after your baby is born, our staff meets with you several times to discuss cleft repair surgery and ensure your child is growing and feeding well. Your family meets with a plastic surgeon, nurse practitioners and orthodontist to discuss the surgery and ask any questions you might have. You get instructions and information on what to expect before and after surgery. Your baby wears the device 24 hours a day except for cleaning twice daily until lip repair surgeryâ€”taking advantage of the fact that cartilage molds easily during the first six weeks of life. Bring the gum segments together. Reduce the size of the gap in the mouth. Stretch the lip muscles. Give the nose a more even shape. Many babies feed better once they begin wearing it. We use soft acrylic for areas that touch the mouth or nose, making the appliance easier for your baby to tolerate. Our orthodontists customize and fit the appliance when your baby is about a week old. Once a monthâ€”until the first surgery takes place, at about 3 monthsâ€”we make a new appliance to address growth. In most cases, proper treatment before surgery results in correction with a single surgery rather than requiring multiple procedures over time. If your baby gets sick before surgery, let us know so that we can decide whether to proceed with the scheduled procedure. Manage Stress Sometimes fears, behavior or expectations related to the upcoming surgery cause stress for families. Gillette can help with resources that might help reduce anxiety for all of your family members. Our child life specialists can provide emotional support and distractions such as toys and movies we can bring to the preoperative waiting area before surgery begins. Knowing what to expect can help everyone feel more prepared. Your child is weighed and changed into a hospital gown. We also check temperature, pulse and blood pressure. Surgery Preparation Next, you and your child meet with the cleft lip and palate surgery team: This is time for you to raise any questions or concernsâ€”the anesthesiologist discusses how anesthesia and pain medication are used during surgery. Surgery First, your baby receives medication for comfort during surgery and anesthesia. Once your child is asleep, we start an IV and insert a breathing tube. For cleft lip repair surgery: The surgeon then draws the flaps together and stitches them to close the cleft. We modify the procedure for babies who need bilateral cleft lip repair repair on both sides of the upper lip. The surgeon uses stitches to close the repair and a bandage along the gum line incision. For cleft palate repair surgery: This repair requires careful repositioning of tissue and muscles to close the cleft. A

plastic surgeon makes incisions on either side of the cleft and uses specialized techniques to reposition both muscle and the hard and soft components of the palate. The surgeon uses stitches to close the repair, generally at the midline of the roof of the mouth, and then uses a bandage along the gum line incision. Usually, families can expect the repair surgery to take an hour. After Surgery After the cleft lip and palate surgery is complete, you meet with a craniofacial care provider to discuss the surgery. Once your baby awakens from anesthesia and is in stable recovery, you join your childâ€"who will stay overnight at the hospital. One to two family members or caregivers can stay overnight with your child. Nurses apply more bacitracin ointment to the incision regularly. How to care for the surgical site following surgery. What medication to apply or take orally to aid healing and reduce the risk of infection. When to follow up with your plastic surgeon. How to feed your baby. After surgery, your baby can return to using a bottle or cup, depending on the procedure they had. Recovery continues for several weeks as swelling goes down after the procedure. During the first week following surgery, your baby might behave differently as compared to before surgery. It is normal for a baby to be fussier than usual. Additional attention to feeding might be needed at first, but most babies return to their regular feeding habits without difficulty. If your child had cleft palate repair, they might have some discomfort in the area of the incision. However, this usually lasts for only a few days and improves each day after surgery. Your child may want to be held more frequently after surgery. Holding and comforting your child might decrease the need for pain medication. Incisions inside the mouth are closed with sutures that dissolve in days. Do not rinse or rub the incision to clean it. The incision will heal best without any manipulation or handling. The sleeves keep your child from putting hands, toys or other objects in the mouth. Your child will wear the sleeves until the follow-up appointment with the craniofacial teamâ€"usually in about days. Return Appointments Your family will return for a postoperative visit about one week after surgery. A plastic surgeon examines the incisions and addresses any concerns you might have. Other follow-up visits might include appointments once your baby is 18 to 24 months old. Our speech and language pathologists work with patients to improve speech after cleft repair surgery. Our speech therapists collaborate with audiologists and ear, nose and throat ENT specialists throughout the repair process. By offering all services under one roof, we can collaborate to treat any problems associated with cleft lip or palate. Our specialists guide you through the services you need as your child grows and develops. Your family might work with specialists in: